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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,811	10/30/2003	Douglas Gene Keithley	10030825-1	1294

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EXAMINER
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NGUYEN, HAI L

ART UNIT	PAPER NUMBER
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2816

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/696,811

Applicant(s)

KEITHLEY ET AL.

Examiner

Hai L. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                                                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Response to Amendment***

1. The amendment received on 12/28/2005 has been reviewed and considered with the following results:

As to the objection to the drawings, Applicant's revision of the drawings has overcome the objection, as such; the objection has been withdrawn. However, the new drawings still have the problem. Therefore, a new objection to the drawings is needed as set forth below.

As to the rejections to claims 3-6 and 8-13, under 35 U.S.C. 112, 1<sup>st</sup> paragraph, Applicant's arguments have been fully considered but are not deemed to be persuasive. Therefore, the rejections are maintained. The arguments supporting the previous rejections are addressed in detail below.

As to the rejection to claim 7, under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, Applicant's amendments have overcome the rejection, as such; the previous rejection to claim 7, mailed on 9/21/2005, has been withdrawn. However, the new amendments still have the problem. Therefore, a new rejection to claim 7 is needed as set forth below.

As to the prior art rejections to the claims made in the previous Office Action, mailed on 9/21/2005. Applicant's arguments have been fully considered but are not deemed to be persuasive. Therefore, the rejections are maintained. The arguments supporting the previous rejections are addressed in detail below.

***Drawings***

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the corrected drawings, filed on 12/28/2005, are objected to by Examiner as informal. Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 3 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitation that “a predictor and corrector that receive the dithered signal and the reference signal, generating a “remove pulse” signal; and an output generator, receiving the dithered signal, reference signal, and “remove pulse” signal, generating a “clear pulse” signal and the constant frequency output”, in claim 3, has not been enabled in the specification because the details of such function is not seen in the description of the preferred embodiment. For example, Fig. 2 is just simply a functional block diagram, which shows the predictor and corrector (18) receive the dithered

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signal ( $F_{dither}$ ) and the reference signal ( $F_{ref}$ ) as the input signals, and output the output signal (REMOVE\_PULSE); but there is no given detail how the claimed circuit generates "remove pulse" signal from those input signals. Therefore, it is not clear as currently defined, how the circuits can perform those recited functions.

5. Claims 4-6 and 8-13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claimed limitation that "a predictor, generating a first output signal indicative of the average number of dithered periods to remove per dithered period", in claim 4, has not been enabled in the specification because the details of such function is not seen in the description of the preferred embodiment. For example, Fig. 6 is just simply a functional block diagram, which shows the predictor (42) receive the dithered signal ( $F_{dither}$ ) and the reference signal ( $F_{ref}$ ) as the input signals, and output the output signal (the signal go into element 44); but there is no given detail how the claimed circuit generates the first output signal indicative of the average number of dithered periods to remove per dithered period. Therefore, it is not clear as currently defined, how the circuits can perform those recited functions in the claim.

The claimed limitation that "selecting a desired number of periods in the dithered signal to receive during a sample period of the reference signal; counting the actual number of periods in the dithered signal during the sample period", in claim 8, has not been enabled in the specification for the same reasons. Note the above discussion with regard to claims 3-6.

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The claimed limitation that “determining an average fractional number of dithered periods of the dithered signal to remove each dithered period”, in claim 9, has not been enabled in the specification for the same reasons. Note the above discussion with regard to claims 3-6.

The claimed limitation that “a predictor operative to estimate an average amount of correction per sample; a corrector operative to measure actual error in a previous sample”, in claim 13, has not been enabled in the specification for the same reasons. Note the above discussion with regard to claims 3-6.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are the lack of structural and/or functional connections between the dithered signal, the reference signal, data and control signals, and the constant frequency output, as recited in claim 1, and others elements of the frequency synthesizer. Furthermore, it is unclear to the examiner what type of signal are the system clock and the PLL output, and where these signals come from.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Murayama (US 5,719,512; previously cited).

With regard to claim 1, Murayama discloses in Fig. 6 a circuit comprising a reference signal (22); a frequency synthesizer (11, 23, 51, 61), receiving a dithered signal (14) and the reference signal, generating a constant frequency output (16); and configuration registers (61, it should be understood that 61 comprises registers since it is latched by the clock signal 62) transceiving data and control signals with the frequency synthesizer.

With regard to claim 2, the circuit further comprises a modulated analog phase lock loop (21, 24, 11, 23, 51), receiving the reference signal (22), generating the dithered signal (14).

***Response to Arguments***

10. In response to Applicant's arguments to claims 3-6 and 8-13 are rejected under 35 U.S.C. § 112, 1st paragraph. Applicant's points to Figures 2, 5 and 7; and the corresponding paragraphs 20 and 31; as supporting/enabling the recitations of the claims. However, Examiner respectfully disagree, for example, Figure 2 is just simply a functional block diagram, which shows the predictor and corrector (18) receiving the dithered signal ( $F_{dither}$ ) and the reference signal ( $F_{ref}$ ) as the input signals, and outputting the output signal (REMOVE\_PULSE); but there is no given

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detail how the claimed circuit generates "remove pulse" signal from those input signals.

Paragraph 20 does not explain the operation of each component in further detail but rather just simply repeats the same structure illustrated in Figure 2. Figure 3 does not explain the operation of each component in detail, rather is a flow chart diagram comprising the decision steps, which are not associated with the predictor and corrector as shown in Figs. 2 and 5. Similarly, as Figure 2 and the corresponding paragraph 20 in the above discussion, figure 7 and corresponding paragraph 31 neither explain the operation of each component in detail nor show the steps, which are associated with the predictor.

11. In response to Applicant's arguments with respect to the prior art rejections to claims 1-2 concerning the differences between the circuit of the prior art (Fig. 6 of Murayama) and the claimed circuit of claims 1-2. Applicant argues that Murayama utilizes an incoming frequency controlled clock while in the circuit of claim 1 the dithered signal is varying and thus is not an incoming frequency controlled clock. This argument is not persuasive because nothing in the claims recited that the dithered signal is varying. By given the broadest reasonable interpretation; the input signal 14 of Murayama is the dithered signal because both are the input signals. During patent examination, the pending claims must be given their "broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 21 F.3d 1367, 1372, 54 USPQ2d 1664, 1667 (Fed. Cir. 2000). While the claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allow. *In re American Academy of Science Tech Center*, WL 1067528 (Fed. Cir. May 13, 2004) (The USPTO uses a different standard for



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construing claims than that used by district courts; during examination the USPTO must give claims their broadest reasonable interpretation). This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In *re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989); *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372, 69 USPQ2d 1857 (Fed. Cir. 2004).

12. Furthermore, Applicant argues that “the signal 22 in Murayama is a burst signal obtained from a composite video signal and is not a reference signal as recited in claim 1. The reference signal as recited in claim 1 is a fixed reference frequency having a lower frequency than the high speed dithered clock signal” is not persuasive either, as discussed above. All the limitations in the claims are clearly anticipated by the reference as discussed above, since the rejection is solely based on the claimed limitations. Therefore, the rejections to claims 1-2 are still believed to be proper and are therefore maintained as set forth above.

### ***Conclusion***

13. Regarding claims 7, the patentability thereof cannot be determined because of its indefiniteness.

14. Regarding claims 3-6, and 8-13, the patentability thereof cannot be determined because of failing to comply with the enablement requirement.

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**


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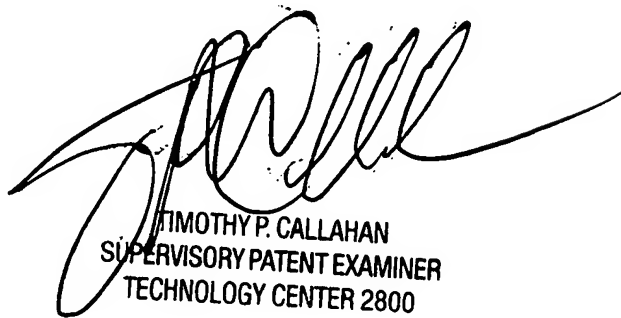
MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai L. Nguyen whose telephone number is 571-272-1747. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

17. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HLN   
February 27, 2006

  
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